Quality Control

\*110\*

Memò

		-	71.
DQA:	Date:		

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

										QA Closed:	Da	te:		
Work Orde	·r·	·- · ·			DISPOSITION				AGAINST DE	PARTMENT	/PROCESS			
Part N					Rework Scrap		ſ	Skid-tube Machining	Crosstube Small Fab		Water Jet d. Eng. Coor.		Engineering Quality	
NCR N	0			<del> </del>	Use-as-is Work Order Update			noforming Large Fab	Finishing Composite	Rec/Stor	re/Packaging Supplier	-	Other	
Root				Descri	ption of work order update	I	nitial	Act	tion	Sign &		T		
Cause	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verificatio	n	QC Inspector	
Doc/Data														
Equip/Tooling							,					- 1		i
Operator							1					Ì		
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Training														
Unapproved		<u> </u>				l								
					F	AUL	T CATE	GORY						
Landir	ng Gear				General		_			_				
	Bending				Bend		Grain			Ovalized		ШР	ressure/Forced	
	Centre No	ot Conce	ntric to (	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	T	emperature/Cure	
	Cracks				Broken/Damaged		Inspecti	ion Incomplete		Part Incorre	ct	∐v	Veld	
	Crushed/	Crimped			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/Mi	issing	v	Vrong Stock Pulled	
	Cuffs				Contamination		Mainte	enance		Part Moved				
	Heat Trea	ət			Countersink		Mislabe	eled		Positioned V	Vrong			
	Inspectio	n Strip in	Tube		Cut Too Short		Misread	± i		Power Loss/	Surge		Other	
	Ripples ir	Bend			Drill Holes		Offset							
	Torque V	Vaves in I	Extrusio	n [	Drawing		Out of (	Calibration						
	Turning S	equence			Finish		Out of !	Sequence						
	Wave/Tw	ist in Tul	эе		Folio	Outside Dimensions							<del></del>	

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

130

QC2- Inspect parts off machine FAI/FAIB

0.00

\*130\* QC

Memo

0.00

JL13-10-31

**Ouality Control** 

140

QC

QC8- Inspect parts - second check

0.00

0.00

Quality Control

\*140\*

Memo

\*\*\*INSPECT INSIDE BORE\*\*\*

											DQA.	Da	ite: _	
NCR: Y	⁄es	/ No				WORK ORDER NON-O	COI	NFORM	MANCE / UPDATE		QA Closed:	 Da	ite:	
						DISPOSITION			AGAINS	T DE	PARTMENT			
Work Orde	er: _						,						_	
Part N	۱o. ِ					Rework Scrap		1	Skid-tube Crosstuk Machining Small Fa	ıb	4	Water Jet d. Eng. Coor.	口	Engineering Quality
NCR I	No.			·········	<del>,</del>	Use-as-is Work Order Update	Thermoforming Finishing Rec/Store/Packaging Large Fab Composite Supplier						-	Other
Root					Descri	ption of work order update		Initial	Action		Sign &			
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Description		Date	Verificatio	n	QC Inspector
Doc/Data							П							
Equip/Tooling								:			ļ			
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Material														
Setup														
Other			1											
Process								•						
Supplier													l	
Training			ł											
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						F	AUI	T CATE	GORY					
Landi	ng (	Gear		•	<u>.</u>	General		_			-		_	
		Bending			<u></u>	Bend		Grain		L	Ovalized		Ш	Pressure/Forced
Centre Not Concentric to O/S					o/s	BOM/Route		Hardwa	ire	$\perp$	Over/Under	tolerance	Ш	Temperature/Cure
Cracks						Broken/Damaged		Inspect	ion Incomplete		Part Incorred	ct		Weld
Crushed/Crimped						Burrs		Instruct	tions Incomplete/Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
Cuffs						Contamination:		Mainte	enance		Part Moved			
		Heat Tre	at			Countersink		Mislahe	aled		Positioned V	Vrong		

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

October-16-13 10:33:30 AM

Item ID:

D3391-025

Accept

\*N900040100\*

Setup Start

Revision ID:

Item Name:

Aft Tube Assembly

Start Date: Required Date: 10/30/13

10/16/13

Start Oty: 1.00 Reg'd Otv: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: Date:

Tooling:

0.00

Date:

Start Run

QC: Date: SPC (Y/N): Date:

Stop

Sequence ID/ Work Center ID Operation Description Set Up/ Run Hours Tool ID

Tool # Plan

Code

Accept Qty

Reiect Otv

Reject Insp. Number Stamp

150

\*150\* Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

mm

160

\*160\* CNC Bend 1

BENDING MACHINE - SKIDTUBES

Memo

0.00

0.00

CNC Delta 100 Bender

Form as per Dwg D3391 Using Bend Prog 3391025

170

\*170\*

OC

Memo

Quality Control

OC5- Inspect part completeness to step on W/O

0.00

4,215"

											DQA.	Dati	٠
NCR:	Yes	/ No				WORK ORDER NON-O	100	VFORM	MANCE / UP	PDATE	QA Closed:	Date	
	:					DISPOSITION				AGAINST DE			
Work Orde	er: .			<del></del>		Rework	7		Skid-tube	Crosstube	7	Water Jet	Engineering
Part N	۱o. ِ			<del></del>		Scrap		r	Machining	Small Fab		d. Eng. Coor.	Quality
NCR I	No.	<del>-</del>				Use-as-is Work Order Update	]		noforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Root					Descri	ption of work order update		nitial	Ac	ction	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling	Щ												
Operator												i	
Material	Ш						1						
Setup	Ш				·						1		
Other	Ш											}	
Process	Щ												
Supplier	Ш		<u> </u>						·				
Training	$\square$		1										
Unapproved				<u> </u>	Í								
						F	AUL	T CATE	GORY			<u></u>	
Landi	ng (	Sear			٠	General	_	•		_	_	_	
		Bending				Bend		Grain		<u>_</u>	Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re	L	Over/Under	tolerance	Temperature/Cure
	L	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
	$\overline{}$	Crushed/	Crimped		L	Burrs	L	Instruct	ions Incomplete/	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	at			Countersink		Mislabe	led		Positioned V	Vrong _	
		Inspectio	n Strip in	Tube		ું હું Too Short		Misread	i		Power Loss/	'Surge	Other
		Ripples in	Bend			Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

											DQA:	D	ate:	'.	
NCR: Y	es / No				WORK ORDER NON-C	O	<b>VFORM</b>	ANCE / UPI	DATE				-		
										QA (	Closed:	D	ate:		_
Work Orde	- r·				DISPOSITION				AGAINST D	EPART	MENT,	/PROCESS			
Part N	0				Rework Scrap Use-as-is Work Order Update		t Therm	Skid-tube  Machining noforming  Large Fab	Crosstube Small Fab Finishing Composite	R		Water Je d. Eng. Cook re/Packagin Supplie	r	Engineering Quality Other	
NCK IV			<del></del>	<del></del>	work Order Opdate	J		raige ran	Composite	J		Juppiie	"Ш	<u>L</u>	J
Root			I	Descri	iption of work order update	1	nitial	Act	tion	Sig	gn &				_
Cause	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desci	ription		ate	Verificati	on	QC Inspector	
Doc/Data									,						
Equip/Tooling						Ì									
Operator															
Material	·		٠	7											
Setup															
Other															
Process			İ	i		1		·					1		
Supplier				· •						1	*				
Training										1					
Unapproved		<u> </u>		<u> </u>											
						AUL	T CATÉ	GORY						<del></del>	_
Landir	ng Gear			_	General		1 .		_	_				_	
	Bending				Bend	<u> </u>	Grain		-	Oval			$\vdash$	Pressure/Forced	
	Centre No	ot Conce	ntric to	o/s	BOM/Route	<u> </u>	Hardwa		-			tolerance	$\vdash$	Temperature/Cure	3
	Cracks			<u> </u>	Broken/Damaged	$\vdash$	4 .	ion Incomplete			Incorre		-	Weld	
	Crushed/	Crimped		<u> </u>	Burrs	$\vdash$	4	ions Incomplete/	Unclear	_	Lost/M		Ш	Wrong Stock Pulle	d
	Cuffs			-	Contamination	$\vdash$	Mainte	-	·	<b>⊣</b> `	Moved				-
	Heat Trea			-	Countersink	$\vdash$	Mislabe		-	_	tioned V		r i		
	Inspectio		Tube	-	Cut Too Short	$\vdash$	Misread	3	L	Pow	er Loss/	Surge		Other	
	Ripples ir			-	Drill Holes	-	Offset	5 11 ···							
	Torque W			n	Drawing	-	4	Calibration							_
	Turning S			<u> </u>	Finish	-	1	Sequence							_
	Wave/Tw	vist in Tul	be	i i	Folio		Outside	Dimensions							

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 108343

Page 5

October-16-13 10:33:30 AM Item ID:

Required Date: 10/30/13

D3391-025

10/16/13

QC:

Accept

\*N900040100\*

Setup Start

**Revision ID:** 

**Start Date:** 

Item Name:

Aft Tube Assembly

Start Qty: 1.00

Operation

Description

**Req'd Qty:** 1.00

Date: \_\_\_\_\_

Cust Item ID:

Customer:

Tool ID

Reference:

Approvals:

Process Plan:

Date: \_\_\_\_\_

Tooling:

SPC (Y/N):

Date: \_\_\_\_\_ Date:

Tool # Plan

Code

Run Start

Reject

Qty

Stop

Number Stamp

Insp.

Work Center ID 190

Sequence ID/

\*190\*

Quality Control ·

Memo

0.00

Set Up/

**Run Hours** 

0.00

13-11-18

Qty

Accept

DAS

Reject

\*200\*

HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

210

200

QC7-Inspect Chemical Conversion Coat

0.00

Memo

0.00

Quality Control

											DQA:	Date	9:
NCR: Y	⁄es	/ No				WORK ORDER NON-C	100	VFORM	MANCE / UF	PDATE	QA Closed:	Date	e:
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT,	PROCESS	
Part N	_					Rework Scrap Use-as-is		1	Skid-tube Machining	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor.	Engineering Quality Other
NCR N	No				<del> </del>	Work Order Update	]	mem	Large Fab	Composite	Nec/3tol	Supplier	
Root					Descri	ption of work order update		Initial	A	ction	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Des	cription	Date	Verification	QC Inspector
Doc/Data													
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Landi	ng G	ear		•		General		,			,	_	
		Bending				Bend	<u> </u>	Grain			Ovalized	L	Pressure/Forced
	Centre Not Concentric to O/S					BOM/Route		Hardwa	are		Over/Under	tolerance	Temperature/Cure
	Cracks					Broken/Damaged	L	Inspect	ion Incomplete		Part Incorred	ct _	Weld
	Crushed/Crimped					Burrs		instruct	tions Incomplete	/Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	$\Box$	Cuffs				Contamination		Mainte	enance		Part Moved		
	[ ]	Heat Trea	it		1	Countersink	1	Mislabe	eled		Positioned V	Vrong	

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Other

Power Loss/Surge

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Page 6

October-16-13 10:33:30 AM

Item ID: Revision ID: Item Name:	D3391-025 Aft Tube Asse	mbly		Accept	*N900	040	100	)*	Setup	Start Stop	*N:	S1*	
Start Date: Required Date: Reference:	10/16/13	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item Customer:						IVA	17	
Approvals:		n:		Tooling: SPC (Y/N):		Oate:			Run	Start Stop		₹1* ₹2*	
Sequence ID/ Work Center II 220 *770* Skidtubes Skidtubes 230 *730* QC Quality Control	D	Operation Description  Skidtubes  Memo Instal spacers A/R Magnal exp. date: 121 cure time 121  QC5- Inspect part comple	s as per dwg D3391 bond 6398 Batch: 27 165/05 rts as per QS10015 eteness to step on W/O	Set Up/ Run Hours 0.00 0.00 0.00 0.00 DAS 27 9-89	Tool ID	Tool #	Code	Accept Qty  De /	Qty	N	Reject Number	Insp. Stamp	-
235 * <b>735</b> * HandFinish Hand Finishing		Pressure Wash per QSI00.  Memo  AND REALC	5 4.3 ODINE AS PER PAR09-0-	0.00 0.00				<u>`</u>	2	B1	3-//ź	78	_

										DQA:	Date:	
NCR: Y	es / No				WORK ORDER NON-C		<b>VFORN</b>	ANCE / UPI	DATE	·		
										QA Closed:	Date:	
Work Orde	ır.				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N					Rework Scrap Use-as-is		ı	Skid-tube Machining	Crosstube Small Fab Finishing	1	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	lo	· · · · · · · · · · · · · · · · · · ·	····	<del></del>	Work Order Update	]		Large Fab	Composite	inec/stor	Supplier	
Root		T		Descri	ption of work order update		nitial	Act	ion	Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
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Landir	ng Gear				General		_			_		-
	Bending				Bend		Grain			Ovalized		Pressure/Forced
[	Centre N	Not Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
	Crushed	/Crimped			Burrs		Instruct	ions Incomplete/l	Jnclear	Part Lost/Mi	issing	Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance		Part Moved		_
	Heat Tre	eat			Countersink		Mislabe	led		Positioned V	Vrong	_
i 	Inspecti	on Strip ir	Tube		Cut Too Short		Misread	l		Power Loss/	Surge	Other
	Ripples	ipples in Bend Drill Holes Offset							···	=		

Out of Calibration
Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 MULTO GT Sikaflex expiry date: LULO G

			DQA:
NCR-	Yes / No	WORK ORDER NON-CONFORMANCE / UPDATE	

								•		QA Closed:	Date	e:
Work Order					DISPOSITION				AGAINST [	DEPARTMENT	/PROCESS	
Part No	o				Rework Scrap Use-as-is Work Order Update		t Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
WCK W	o				Work Order opdate	<b>'  </b>		carge rab	Composite		Supplier	
Root				Descri	ption of work order update	In	itial	Ad	ction	Sign &		
Cause	Date	Step	Qty	•	or Non-conformance	Chie	ef Eng	Des	cription	Date	Verification	QC Inspector
Ooc/Data  quip/Tooling Operator Material Setup Other Process Supplier Fraining												
Unapproved			<u> </u>			ALUT	CATE	CORY			<u> </u>	
Landin	g Goor				General	AULI	CATE	GONT			<del> </del>	
Landin	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube				Bend BOM/Route Broken/Damaged Burrs Contamination Countersink		nstruct Mainte Mislabe	ion Incomplete ions Incomplete enance eled	/Unclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
1	<b>→</b> `	-	Tube	<u> </u>	Cut Too Short	$\mathbf{H}$	Misread	t	Ľ	Power Loss/	Surge	Other
-	Ripples in Torque W Turning S	Vaves in I		n	Drill Holes Drawing Finish	Ц		Calibration Sequence				
1	Wave/Tw				Folio	П	Outside	Dimensions				

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 108343 \*108343\* Page 8 October-16-13 10:33:30 AM D3391-025 Item ID: Accept \*N900040100\* Setup Start **Revision ID:** Item Name: Aft Tube Assembly **Start Date:** 10/16/13 Start Oty: 1.00 Cust Item ID: Required Date: 10/30/13 **Req'd Qty:** 1.00 Customer: Reference: Run Process Plan: Date: **Approvals:** Tooling: Date: Stop QC: \_\_\_\_\_ SPC (Y/N): Date: Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. Work Center ID Description **Run Hours Qty** Code Oty Number Stamp 270 QC5- Inspect part completeness to step on W/O 0.00 DAS 27 \*970\* OC 0.00 Memo Quality Control D412-742-043/B110021 Identify as per dwg & Stock Location. U(6 280 1x of Al Worls \*280\* 0.00 Packaging Memo Packaging 290 QC21- Final Inspection - Work Order Release 0.00 Pl 14-031-2 0.00 Memo **Quality Control** 

RIHOU.2

											DQA:	Da1	te:	
NCR: Y	'es /	No			WORK ORDER NON-	COI	VFORM	MANCE / UP	DATE	04	Closed:	Dat	<b>.</b>	
						_					•		le.	<del></del>
Work Orde	er:				DISPOSITION				AGAINST DE	PAR	TMENT	PROCESS		
	··· —				Rework	1		Skid-tube	Crosstube	1		Water Jet		Engineering
Part N	lo.				Scrap		i	Machining	Small Fab	1	Pro	d. Eng. Coor.	П	Quality
					Use-as-is		Therm	noforming	Finishing	] [	Rec/Stor	e/Packaging		Other
NCR N	lo	<u></u>			Work Order Update	]		Large Fab	Composite	]		Supplier		
Root		T		Descr	iption of work order update	Πί	Initial	Ac	tion	S	ign &			
Cause	Da	te Ste	p Qt	/	or Non-conformance	Ch	nief Eng	Desc	ription		Date	Verification	n	QC Inspector
Doc/Data										1				
Equip/Tooling	_					1								
Operator														
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Process		ļ								1				,
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Landii	ng Gear				General	_	Grain			٦۵	1			1. (5 )
	_	Bending Bend								4	alized			Pressure/Forced
	Centre Not Concentric to O/S BOM/Route						Hardwa	-	<del></del>	-		tolerance	$\vdash$	Temperature/Cure
	Cracks Broken/Damaged						<b>-</b> 1 '	on Incomplete	<u> </u>	┥	t Incorred		$\vdash$	Weld
	<b>⊢</b> —	hed/Crimp	ed	<u> </u>	Burrs	-	4	ions Incomplete/	Unclear	-1	t Lost/Mi	ssing	<u>_</u>	Wrong Stock Pulled
	Cuff			<u> </u>	Contamination	-	Mainte		<u> </u>	-1	t Moved	· · · · · · · · · · · · · · · · · · ·		
	Heat Treat Countersink						Mislabe		_		itioned V		_	1
	Insp	ection Strip	in Tube	· L	Cut Too Short		Misread	1		_Pov	ver Loss/	Surge	L_	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

											DQA:	Date:	,
NCR: Y	⁄es	/ No				WORK ORDER NON-C	100	NFORM	ANCE / UP	DATE		-	f
		•									QA Closed:	Date:	
Work Orde	٠.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	- ۱۰۰					Rework Scrap Use-as-is Work Order Update		f Therm	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite	-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
New	••••					work order opdate							
Root					Descri	ption of work order update		Initial	Ac	tion	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator													
Material													
Setup						•							
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Process													
Supplier							İ				·		
Training													
Unapproved										÷			
						F	AUI	LT CATE	GORY				
Landi	ng (	Gear				General		=			-		_
		Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre N	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped			Burrs		Instruct	ions Incomplete/	'Unclear	Part Lost/M	ssing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		_
		Heat Trea	at			Countersink		Mislabe	eled		Positioned V	Vrong	_
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	i		Power Loss/	Surge	Other
		Ripples in	n Bend										

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print October-16-13 10:33:34 AM									Page 2
Work Order ID: 108343  Parent Item: D3391-025  Parent Item Name: Aft Tube Assembly			08343* 3391-025*				t Date: 1		Required Date: 10/30/13 Required Qty: 1.00
*D6014-090 *D6014-090* ALUMINUM EXTRUSION	Manufactured	No		100	Each	89.0000	1 <b>**</b>	1	
			LG (86063) LG015		oc Oty 72 72 17 17	Loc Code			-mm.L 13/10/17
*D3670-4-200 *D3670-4-200* Bushing	Manufactured	No		230	Each	354.0000	4 <b>**</b>	De 1	3 fu /21
			Location FG  87709  LG  101814  102269 103078 103880 96240  LG001  104855 78606 81972 88580  LG005  80360	<u>l.</u>	10 10 189 1 44 4 60 80 115 94 2 4 115 40 40	Loc Code			

											DQA:	Date	<b>::</b>
NCR: Y	es /	No				<b>WORK ORDER NON-C</b>	ON	IFORN	ANCE / UP	DATE	·		•
									_		QA Closed:	Date	:
Work Orde	· F*					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
WOIK OIGE	·· —					Rework			Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	lo.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is		Therm	oforming	Finishing	Rec/Stor	e/Packaging	Other
NCR N	lo	<u>-</u>				Work Order Update	]		Large Fab	Composite		Supplier	
Root					Descri	ption of work order update	lr	nitial	Act	tion	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	Chi	ief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator		ĺ											
Material													
Setup													
Other												:	
Process													·
Supplier					!		İ						
Training				1	<b>.</b>								
Unapproved				<u> </u>						-	<u> </u>		
						<del></del>	AUL'	T CATE	GORY				· · · · · · · · · · · · · · · · · · ·
Landi					_	General	$\overline{}$				7	г	<del>-</del>
		ending			ļ	Bend	$\vdash$	Grain			Ovalized	<u> </u>	Pressure/Forced
	<b>⊢</b>		ot Concer	ntric to	o/s	BOM/Route	$\vdash$	Hardwa	*	<u> </u>	Over/Under	} <del>-</del>	Temperature/Cure
	$\vdash$	acks			<u> </u>	Broken/Damaged		•	on incomplete	_	Part Incorre	· -	Weld
		-	Crimped		<u> </u>	Burrs	-		ions Incomplete/l	Unclear	Part Lost/Mi	issing	Wrong Stock Pulled
	$\vdash$	ıffs			<u> </u>	Contamination	$\vdash$	Mainte			Part Moved		
	${f oxed{H}}$	eat Trea			L	Countersink	$\vdash$	Mislabe		<u> </u>	Positioned V		<b>-</b> .
	Н	•	n Strip in	Tube	<u> </u>	Cut Too Short	$\vdash$	Misread	I		Power Loss/	Surge	Other
	Ri	pples in	Bend			Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

### **Picklist Print**

October-16-13 10:33:34 AM

Work Order ID: 108343

D3391-025

Parent Item Name: Aft Tube Assembly

\*108343\*

\*D3391-025\*

D2646

Parent Item:

Manufactured

270

Each

\*D2646\* ×

Locatio	<u>n</u>	Loc Oty
FG		4
	85848	2
	90495	2
FP001		55
	103056	6
	103306	20
	62678	5
	68280	5
	70945	1
	71070	2
	73294	1
	73825	2
	79562	2
	85443	2
	85848	2
	91189	5
	93661	2

**Start Date: 10/16/13** 

Required Date: 10/30/13

Page 3

Start Qty: 1.00

Required Qty: 1.00

59.0000

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14/02/06

Loc Code

3110816

											DQA:	Date	•
NCR: Y	es /	No No				WORK ORDER NON-C	ON	IFORN	MANCE / UP	DATE			
											QA Closed:	Date	:
Work Orde	\r·					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIK OIGE	·· —					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	lo.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is			oforming	Finishing	4	re/Packaging	Other
NCR N	No					Work Order Update			Large Fab	Composite		Supplier	
Root					Descri	ption of work order update		nitial	Act	tion	Sign &		
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		racks				Broken/Damaged	L		on Incomplete		Part Incorre	<b>⊢</b>	Weld
	Щc	rushed/0	Crimped			Burrs		4	ions Incomplete/	Unclear	Part Lost/M	· ·	Wrong Stock Pulled
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	∐⊦	leat Trea	t			Countersink		Mislabe			Positioned \		_
		nspection	n Strip in	Tube		Cut Too Short		Misread	Ī		Power Loss,	'Surge	Other
		lionles in	Bend		1	Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print October-16-13 10:33:34 AM								Page 4
Work Order ID: 108343		*10834	12*					
Parent Item: D3391-025  Parent Item Name: Aft Tube Assembly			1-025*			Start Dat Start Qt	e: 10/16/13 y: 1.00	Required Date: 10/30/13 Required Qty: 1.00
D3672-1	Manufactured	No		270	Each	1,377.000	2 2	
*D3672-1* Phenolic Washer						**		M Nozlou
		Location	<u>on</u>	Lo	oc Oty	Loc Code		
		FG			10			
			85222		10			<u> </u>
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			83608		3			
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		. 31002	103845		461			
		••	91325		13			
			93886		527			<del></del>
ALS4-1032-130	Purchased	No		260	Each	3,676.000	14 14	
*AI S4-1032-130*	$\forall$					**	- V	k inloslos
		<u>Locatio</u>	<u>on</u>	<u>Lo</u>	e Qty	Loc Code		
		FP001			389			
			119084		116		<del></del>	
			120671		89			<u> </u>
			120807 120837		36			<u> </u>
			121269		140			<del></del>
		ST279			40			<del>_</del>
			124080		40			<del></del>
		st510			1247		-	
			124163		160			
			M126109		1087			
		st555			2000		- 4	
			M127028		2000		lol	
October-16-13 10:33:34 AM		<b></b>	Shop Pa	cket Print				Page 4

NCR:	Yes	- /	No
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DQA:

Date:

NCR: Y	es	/ No				WORK ORDER NON-	COr	VFORM	MANCE / UPI	DATE	QA Closed:	Dat	te:	
Vork Orde	r·					DISPOSITION				AGAINST DI	PARTMENT	PROCESS		
Part N	-			•		Rework Scrap		ı	Skid-tube Machining	Crosstube Small Fab		Water Jet	Quality	
NCR N	o					Use-as-is Work Order Update	]		oforming Large Fab	Finishing Composite	Rec/Stor	e/Packaging Supplier	Other	
Root					Descri	iption of work order update	T	nitial	Act	tion	Sign &			
Cause		Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	n QC Inspect	tor
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							AUL	T CATE	GORY					
Landir	ng G	iear				General	_	_			_		_	
		Bending				Bend		Grain			Ovalized		Pressure/Force	d
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/C	ure
		Cracks				Broken/Damaged		Inspect	on Incomplete		Part Incorre	t l	Weld	
		Crushed/0	Crimped		_	Burrs		Instruct	ions Incomplete/I	Unclear	Part Lost/Mi	ssing	Wrong Stock Pu	ılled
		Cuffs				Contamination		Mainte	nance		Part Moved	•	·	
		Heat Trea	it			Countersink		Mislabe	led		Positioned V	Vrong		
	$\exists$	Inspection	n Strip in	Tube		Cut Too Short		Misread	ł		Power Loss/	Surge	Other	
	-	Ripples in				Drill Holes		Offset		_	_			
		Torque W		xtrusio	n 📙	Drawing		Out of	Calibration		<del></del>			
		Turning S				Finish		Out of 9	Sequence		<del></del>			
		Maye/Tw				Folio		Outside	Dimensions					

							Page 5
			•				Required Date: 10/30/13 Required Qty: 1.00
Purchased	No		270	Each	1,543.000 8		
					**	<u> </u>	ul orlow
Purchased	No	Location ST280  M125954  M127028 st555  M127092  Location FG  122814 ST512  125388	270	743 20 723 800 800 Each 20 20 2946 2376	Loc Code  2,966.000 6  ★★  Loc Code		Lulozlou
Purchased	No	141120703	270	Each	294.0000 4	4	1
					**	Jel	rulozioa
		Location FG 122800 ST512 125388	<u>.</u>		Loc Code NN 12805J	x J	
	Purchased	Purchased No  Purchased No	Purchased No    Location   ST280	*D3391-025*  Purchased No 270  Location ST280	*D3391-025*  Purchased No 270 Each    Loc Oty   ST280	*D3391-025*  Start Date: 16 Start Qty: 1.  Purchased No 270 Each 1,543.000 8  ***    Location   Loc Otv   Loc Code	*D33.91-025*  Start Date: 10/16/13 Start Qty: 1.00  Purchased No 270 Each 1,543.000 8 8  ***    Loc Otv

Shop Packet Print

Page 5

October-i 6-13 10:33:34 AM

NCR:	⁄es	/ No				WORK ORDER NON-O	COP	<b>VFORM</b>	MANCE / UP	DATE			
									_		QA Closed:	Date:	:
Work Orde	or:					DISPOSITION			· · · · · · ·	AGAINST D	EPARTMENT	/PROCESS	
Work Ord						Rework	7		Skid-tube	Crosstube	7	Water Jet	Engineering
Part N	No.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
	Ī					Use-as-is	]	Therm	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR I	No.					Work Order Update			Large Fab	Composite		Supplier	
Root	1				Descri	ption of work order update		nitial	Ac	tion	Sign &	<u> </u>	
Cause	l	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator							ĺ						
Material													
Setup	П												
Other	П												
Process	П		ļ										
Supplier													
Training													
Unapproved						6							
						F	AUL	T CATE	GORY				
Landi	ng G	Gear				General	_	_			_		
		Bending				Bend	L	Grain		<u></u>	Ovalized		Pressure/Forced
		Centre N	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete	L.	Part Incorre	ct	Weld
		Crushed/	Crimped			Burrs		Instruct	ions Incomplete/	'Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	at			Countersink		Mislabe	eled		Positioned \	Wrong	_
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	d .		Power Loss,	/Surge	Other
	Г	Ripples in	n Bend			Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence
Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

**Picklist Print** 

October-16-13 10:33:34 AM

Work Order ID: 108343

D3391-025

Parent Item Name: Aft Tube Assembly

\*108343\*

\*D3391-025\*

**Start Date:** 10/16/13

Required Date: 10/30/13

Page 6

Start Oty: 1.00

Required Oty: 1.00

9,489.000 10

\*\*

10

NAS1149C0332R

WASHER

Parent Item:

Purchased

No

122063

124580

\*NAS1149C0332R\*

270

Each

26

126

Location Loc Qty FP001 264 123355 264 ST292 119 123248 18 123759 10 125268 91 st510 6000 m126319 6000 ST511 2954 125654 2954 ST517 152

Loc Code

X (O)

October-16-13 10:33:34 AM

**Shop Packet Print** 

Page 6

											DQA:	Date:	·
NCR:	Yes	/ No				WORK ORDER NON-C	COI	NFORM	MANCE / UPDATE		·		
					_						QA Closed:	Date:	
Work Orde	or.					DISPOSITION			AG	SAINST DE	PARTMENT	/PROCESS	₹*
Work Orde	-					Rework	1		Skid-tube Cro	sstube	I	Water Jet	Engineering
Part N	No.					Scrap	1 1		— —	all Fab	Pro	d. Eng. Coor.	Quality
	-	<u> </u>	· · · ·			Use-as-is	1 !		~ <b>⊢</b>	nishing	l .	e/Packaging	Other
NCR I	No.					Work Order Update	1 !		· —	nposite		Supplier	1
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Root					Į.	ption of work order update		Initial	Action	·	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Description		Date	Verification	QC Inspector
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Operator	Щ				ļ					i			
Material	Ш												
Setup	Ш		ł										
Other	$\square$												
Process	Н						1						
Supplier	Н		1										
Training	Н						}						
Unapproved			<u> </u>		L	Ε	ALU	LT CATE	COPY				
Landi	na G	ioar .				General	<u> </u>	LICAIL	<u> </u>				
Landi		Bending				Bend		Grain			Ovalized		Pressure/Forced
	Н	Centre No	nt Concei	ntric to		BOM/Route	$\vdash$	Hardwa	ire .		Over/Under	tolerance	Temperature/Cure
	H	Cracks			-,"  -	Broken/Damaged		4	ion Incomplete		Part Incorred	—	Weld
	$\vdash$	Crushed/	Crimped			Burrs		-1	tions Incomplete/Unclear		Part Lost/Mi	<del>-</del>	Wrong Stock Pulled
	H	Cuffs				Contamination		Mainte	<u>.</u>		Part Moved		
		Heat Tre	at			Countersink		Mislabe	eled		Positioned V	Vrong	

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

Folio

DART AEROSPACE LTD	Work Order:	108313
Description: Float Skidtube (412)	Part Number:	D3391-3
Inspection Dwg: D3391 Rev: I		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
		Lat	he Section	า		
14.000	+/-0.010	14.00			tape	L6-25
3.500	+/-0.010	3.499	_		WENV	CNC-08
Ø3.200	+/-0.010	3.20(				
Ø3.750	+/-0.010	3.750				
30° x 0.060 chamfer	+/-0.010	30° × - 662				,
88.93	+/-0.030	88.43	_		tope	46-25

Maa	sured by: 977	no (		Date: 13/10/20
	udited by: 2	Date: 13 10 R		
	9	89 HA	AS Section	
1.526	+0.000/-0.030	1,520		Vein CNC-62
7.500	+/-0.010	7.500		
27.750	+/-0.010	21,750		m-tape
31.750	+/-0.010	31,750		
35.250	+/-0.010	35,250		7
3.300	+/-0.010	3.301	/	Vern
0.200	+/-0.010	200	/	-
3.520	+/-0.010	-3520	/	mic 104-137
0.687	+0.010/-0.000	690	/	Neth
R0.062	+/-0.010	-062		1
Ø0 484	+0.005/-0.001	HQ7		

L		XX./	
Measured by:	-SL		Date: 3-10-31
		040	
Audited by:	A . 0	700	Date:   3   1   04

Rev	Date	Change	Revised by	Approved
Α	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
В	06.06.19	Dwg revision update	KJ/JLM	
С	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
Н	11.06.21	Dimension 44.995 removed	KJ	
1	12.05.15	Dwg Rev updated	KJ	
J	12.05.23	Dimension updated	KJ	
K	12.10.15	88.93 dimension removed	KJ IA	<u></u>
L	12.11.28	88.93 dimension added	KJ 😽	<u>  </u>

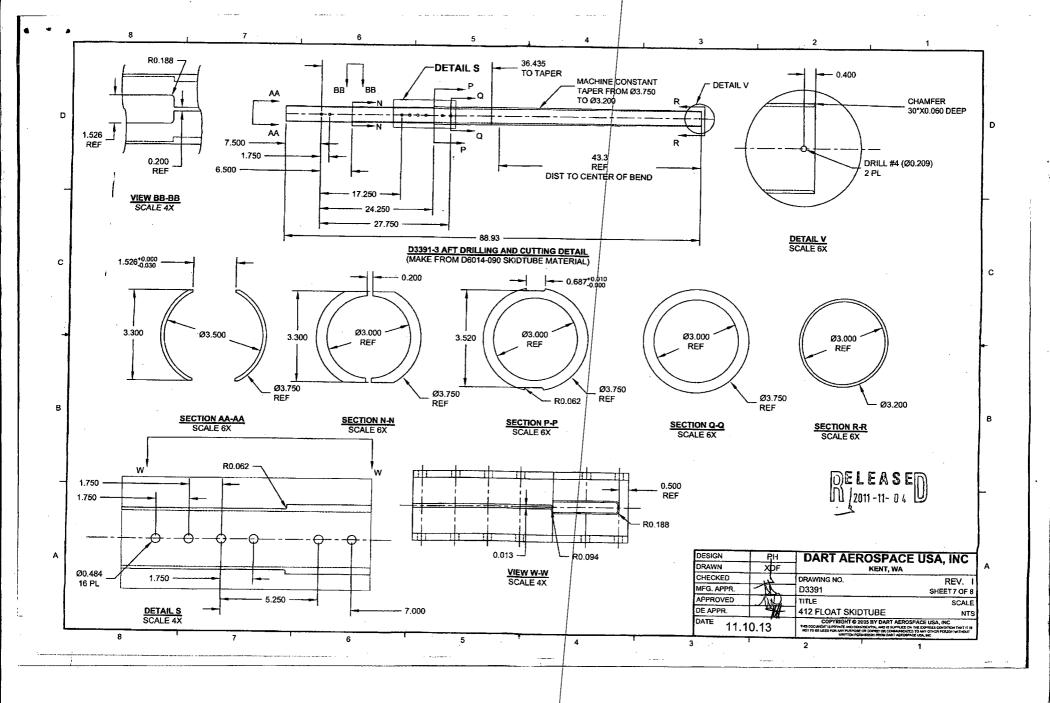
DQA:	Date:	
\ <u></u>		

NCR.	Yes	1	No

# **WORK ORDER NON-CONFORMANCE / UPDATE**

								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		QA Closed:	Dat	te:	
Work Order:					DISPOSITION				AGAINST DE	PEPARTMENT/PROCESS			
Part No.				Rework Scrap Use-as-is	- - - - - -	Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing				Water Jet d. Eng. Coor.	Engineering Quality Other		
NCR No.			Work Order Update	<u> </u>	Large Fab Composite			Rec/Store/Packaging Other Supplier					
Root				Descri	ption of work order update	Init	Initial Action		tion	Sign &			
Cause	Date	Step	Qty		or Non-conformance	Chief	Eng	Descr	ription	Date	Verification	n QC Inspector	
Doc/Data													
Equip/Tooling													
Operator				ı									
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Other													
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Training		Ì						•					
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Landir	ng Gear				General			, ,,,					
	Bending				Bend	G	rain		[	Ovalized		Pressure/Forced	
	Centre N	Centre Not Concentric to O/S			BOM/Route		Hardware		Over/Under tolerance		Temperature/Cure		
	Cracks				Broken/Damaged	In	Inspection Incomplete			Part Incorrect		Weld	
	Crushed	Crushed/Crimped Burrs				In	Instructions Incomplete/Unclear		Part Lost/Missing Wrong Stock Pu		Wrong Stock Pulled		
	Cuffs				Contamination	М	Maintenance		Part Moved				
	Heat Treat Co			Countersink	Пм	Mislabeled			Positioned Wrong				
	Inspection Strip in Tube			Cut Too Short	Пм	Misread			Power Loss/Surge		Other		
	Ripples in Bend Drill Holes				Drill Holes	По	ffset			•	!		
					Drawing	По	ut of (	Calibration					
	Turning Sequence Finish				По	ut of s	Sequence						
	Wave/Twist in Tube				Folio	По	Outside Dimensions						

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G



108343 MLJ

